



## **Environmental Management System (EMS) Manual**

**New Hampshire Department of Transportation  
Bureau of Highway Maintenance  
Concord, NH**

*Version 2.0  
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## **1.1 INTRODUCTION**

In June of 2007, the NH Department of Environmental Services (NHDES) issued an Administrative Order by Consent (AOC) to the NH Department of Transportation (NHDOT) regarding compliance issues pertaining to hazardous materials management. As part of that Order, NHDOT agreed to develop and implement an environmental management system (EMS) for each of the bureaus with the Division of Operations, ... “to assist in ensuring compliance with applicable environmental requirements and to improve overall environmental performance at DOT’s Division of Operations Facilities ... and to promote employee awareness, education, and involvement in the environmental aspects of DOT’s operations.”

NHDOT has developed an Environmental Management System to formalize and organize its efforts to be an outstanding steward of the environment. The EMS has been designed to be compatible, and integrated with, NHDOT’s overall mission of serving the transportation needs of the State of New Hampshire.

The EMS will support NHDOT’s goal of maintaining and reaching beyond compliance and striving to minimize impacts on the environment through a continuum of planning, implementing, reviewing, and improving the processes and actions that it undertakes to meet its environmental obligations. The result will be an integration of environmental accountability into NHDOT day-to-day decision-making and long-term planning processes, across all divisional missions, activities, and functions.

NHDOT managers and employees already have a high sensitivity to environmental issues and a broad awareness of how their activities can impact the environment. Therefore, it is natural that NHDOT personnel join together to develop and implement a program to manage their own environmental impacts, improve overall environmental performance, and lead by example. Through this EMS, NHDOT personnel demonstrate their commitment to protecting and preserving natural resources and reducing their impact on the environment.

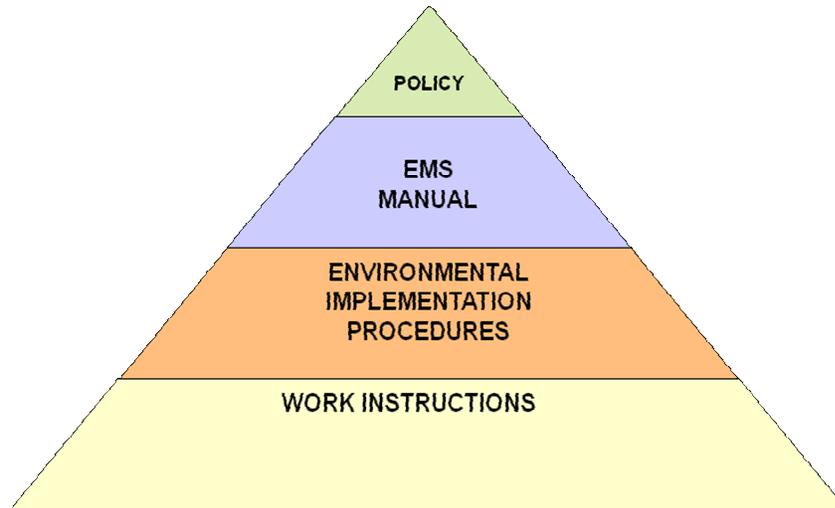
This manual defines the scope and elements of NHDOT’s EMS and provides a linkage of system documents to the various elements of the EMS. The NHDOT EMS is based upon the ISO 14001 international standard and the U.S. Environmental Protection Agency’s Compliance Focused EMS, both proven as effective models for environmental management.

## **1.2 SCOPE**

This manual describes the NHDOT EMS, which formalizes and provides a mechanism for environmental management throughout the Division of Operations (Operations). The EMS manual is a key part of the NHDOT’s overall

management approach, which includes four primary components, each supporting the others:

- Environmental Policy
- EMS Manual
- Environmental Implementation Procedures (EIP)
- Work Instructions (WI) (or the equivalent documentation)



The Environmental Policy and the EMS Manual are standardized documents that apply throughout the Department. The Environmental Implementation Procedures and the Work Instructions are customized by each of the Division’s bureaus as appropriate to their specific operations and environmental activities.

The scope (“fenceline”) of this EMS effort includes only those facilities operated by the Bureaus and Districts within the Department’s Division of Operations. On-the-road activities and work sites outside Division properties are not included in this inaugural EMS. Once this initial effort is complete, however, the Department may extend the EMS to include Operations off-site activities and work areas. The Department may also choose to initiate EMS implementation within other Divisions of the Department.

### 1.3 REFERENCES

All system-level elements of the ISO 14001 standard, and the elements specified in the June 2007 AOC, are addressed in this EMS manual. The following crosswalk table helps demonstrate conformance to both requirements.

NHDOT EMS Manual	AOC Requirement	ISO 14001:2004
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Environmental Policy	Management Policies and Procedures; Pollution Prevention Policy	4.2
Environmental Aspects and Significant Impacts	Environmental Requirements	4.3.1
Legal and Other Requirements	Management Policies and Procedures; Environmental Requirements; Pollution Prevention Policy	4.3.2
Environmental Objectives, Targets and Action Plans	Assessment, Prevention and Control	4.3.3
Resources, Roles, Responsibility and Authority	Organization, Personnel and Oversight; Accountability and Responsibility	4.4.1
Competence, Training, and Awareness	Environmental Training, Awareness and Competence	4.4.2
Environmental Communication	Annual Reporting	4.4.3
EMS Documentation	Record Keeping and Document Control	4.4.4
Environmental Documents and Records Control	Record Keeping and Document Control	4.4.5; 4.5.4
Operational Control	Management Policies and Procedures; Accountability and Responsibility	4.4.6
Emergency Preparedness and Response	Environmental Incident and Non-compliance Investigations	4.4.7
Monitoring and Measurement	Assessment, Prevention and Control	4.5.1
Evaluation of Compliance	Assessment, Prevention and Control; Continuing Program Evaluation and Improvement	4.5.2
Non-conformity, Corrective Action and Preventive Action	Assessment, Prevention and Control; Environmental Incident and Non-compliance Investigations	4.5.3
Internal EMS Audit	Assessment, Prevention and Control	4.5.5
Management Review	Continuing Program Evaluation and Improvement	4.6

## 1.4 ISSUE AND UPDATE

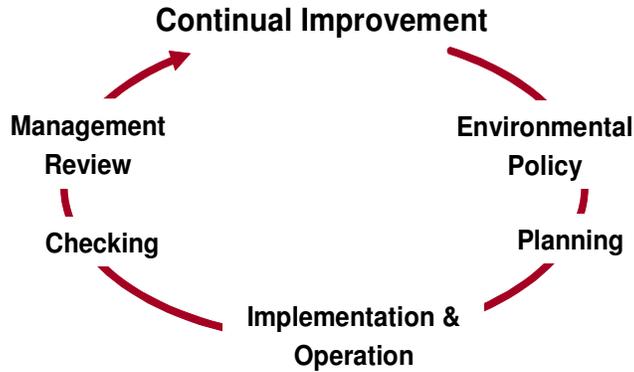
As this document is part of NHDOT's effort to continually improve its environmental performance, it will change over time. This EMS Manual and related documents are controlled in accordance with stated NHDOT procedures on documents and records control contained in each Bureau's EMS.

## 1.5 DESCRIPTION OF EMS ELEMENTS

The individual NHDOT EMS elements are grouped into major five categories:

- **Policy**
- **Planning**
- **Implementation & Operation**
- **Checking**

- **Management Review**



## **POLICY**

### **Environmental Policy**

The NHDOT Environmental Policy provides the framework for the NHDOT Environmental Management System. The policy is developed under the direction of the Office of Stewardship and Compliance (OSC) and approved by the Commissioner. The policy includes a commitment to continual improvement and the prevention of pollution, as well as a commitment to meet or exceed relevant environmental legislation, regulations, and other requirements. This policy is communicated to all new employees during orientation, to all Department employees as part of EMS Awareness training, and made available to the public on our web site. The policy is reviewed periodically.

Although each Bureau within the Division of Operation is creating its own EMS, there will be only one Department Environmental Policy. Therefore, as part of its EMS, each bureau may include a Commitment Statement that reinforces the ideas expressed in the Environmental Policy and adds additional goals and principles that are specific to the particular Bureau.

## **PLANNING**

### **Environmental Aspects and Significant Impacts**

Environmental aspects are the elements of a Bureau's activities, functions, or processes that can interact with the environment and over which the Bureau or District has influence or control. Environmental impacts are changes to the environment wholly or partially resulting from a Bureau's aspects. Bureau Environmental Implementation Procedures (EIPs) outline the steps for identifying and prioritizing the environmental aspects and impacts associated with that Bureau's facilities and operations. In this manner, a comprehensive "aspects inventory" is established. The identified environmental aspects are evaluated against defined criteria for ranking significance of impact.

A Bureau re-evaluates its environmental aspects and impacts periodically, especially if it engages in a major new activity or responsibility that may lead to an environmental impact or trigger new environmental regulatory requirements.

### **Legal and Other Requirements**

To help ensure regulatory compliance by all units of the Department, the OSC will establish procedures for identifying, accessing, and communicating applicable environmental legal and other requirements to the Bureaus and Districts. National, regional, state, local and other requirements will be monitored by the OSC.

Each Bureau is responsible for its environmental compliance activities. Additionally, Bureaus will consider the environmental legal and other requirements that apply to its operations when establishing its objectives and targets for environmental improvements.

### **Environmental Objectives, Targets and Action Plans**

Bureaus establish a process for setting those formal objectives and targets intended to promote full environmental compliance and to improve its overall environmental performance consistent with the NHDOT's Environmental Policy. Objectives and targets will include:

- Performance objectives.
- Specific targets that define those performance objectives.
- Planned deadlines for achieving those targets and goals.

Bureaus develop objectives and targets with consideration of their significant environmental impacts, available technological options, financial constraints, operational considerations, and the views of interested parties (stakeholders) inside and outside of NHDOT.

Environmental action plans are developed based upon the chosen objectives and targets. The action plans serve several purposes:

- Define the steps and actions necessary to meet the Bureau's current environmental objectives and targets.
- Assign responsibility for completing these actions.
- Establish the means and time frame by which the objectives and targets are to be achieved.
- Create an environmental review process for all new construction projects, capital upgrades, facility renovations, and other key modifications to ensure that environmental requirements and potential impacts are considered.

## **IMPLEMENTATION AND OPERATION**

### **Resources, Roles, Responsibility and Authority**

Environmental management system roles, responsibilities, and authorities are defined for relevant functions and levels within the NHDOT. Senior Department management provides the resources essential to the creation, implementation, and maintenance of the EMS, including the availability of staff at various levels. An EMS coordinator within each Bureau assumes the lead role for the EMS creation, implementation, and maintenance in that Bureau. This lead role is most often assigned to the Safety and Environmental Coordinator(s) who may, in turn, form an EMS Team to assist with EMS activities.

### **Competence, Training and Awareness**

Proper training is crucial to the success of any EMS. Working in coordination with OSC, each Bureau establishes training requirements for relevant functions and levels so employees are aware of the NHDOT environmental policy, their Bureau's legal and other requirements, significant environmental aspects, and their roles and responsibilities in achieving established objectives, targets, and conformance with all EMS procedures. Bureau or District EMS coordinators work with management to identify, plan, monitor and record environmental training needs for all Bureau and District staff.

### **Environmental Communication**

NHDOT is committed to establishing and maintaining active internal and external communications regarding its environmental issues and EMS activities. Using a variety of media, the OSC, Bureaus, and Districts seek

opportunities to communicate with various interested parties that have a stake in the NHDOT's environmental activities and performance.

### **EMS Documentation**

NHDOT documents, specifically this EMS Manual, describe the key components and core elements of the Department's EMS approach. Other levels of documentation, as outlined in Section 2.0, Scope, further define environmental policy, Bureau-specific environmental implementation procedures, and work instructions that address objectives and targets, roles and responsibilities, record keeping, and other specific EMS components.

### **Environmental Documents and Records Control**

Each Bureau establishes suitable procedures for controlling all documents and records related to its EMS. EMS procedures describe where documents and records can be located and managed and ensure that current versions are available and that obsolete documents are promptly removed from use. There shall be a preference for electronic document control whenever available.

### **Operational Control**

NHDOT's environmental performance is improved using procedures that are carried out consistently and are communicated to all employees. Environmental standard operating procedures (SOP) and controlled Work Instructions (WI) for work related to significant environmental aspects contain instructions to allow control of the associated impacts, and are included in the EMS document control system. These procedures can apply to significant and non-significant aspects, and can include procedures relating to operational tasks, travel, purchasing, energy use, and any additional procedures developed to support environmental objectives and targets. Environmental control documents are reviewed periodically to ensure that they are effective and support progress toward achieving environmental objectives and targets.

### **Emergency Preparedness and Response**

Each Bureau EMS includes procedures to identify potential, and respond to actual, spills, accidents, and emergency situations. These procedures also aim to prevent and mitigate the environmental impacts that may be associated with spills, accidents, and emergencies. These procedures are

reviewed after any occurrence of a spill, accident, or emergency incident and lessons learned are incorporated into modified SOPs/WIs.

## **CHECKING**

### **Monitoring and Measurement**

To ensure that an EMS is facilitating progress toward expected improvements in environmental performance, established procedures help monitor and measure key characteristics of each Bureau's or District's operations that have, or can have, significant environmental impacts.

### **Evaluation of Compliance**

Consistent with its commitment to regulatory compliance, NHDOT establishes methods and schedules for periodically evaluating its Bureau's or District's compliance status through multi-media environmental audits of facilities and operations.

### **Internal EMS Audits**

Bureau or District EMS Coordinators are responsible for conducting or coordinating periodic internal EMS audits. These audits are conducted through the Office of Stewardship and Compliance by OSC personnel and members of the several EMS Teams to ensure that the Bureau EMS has been properly implemented and maintained and that environmental activities conform to the planned arrangements for environmental management at NHDOT. The results of these periodic EMS audits are provided to Bureau and OSC management and findings are addressed within a mutually agreeable amount of time.

### **Non-conformity, Corrective Action and Preventive Action**

Each Bureau establishes appropriate procedures for investigating and addressing instances of EMS non-conformance, including those associated with regulatory non-compliance. The Bureau-level EMS also includes procedures for initiating and completing root cause analyses and appropriate corrective and preventive actions.

## **MANAGEMENT REVIEW**

### **Management Review**

Bureau and District EMS Coordinators are responsible for scheduling at least one environmental management review with Bureau and District

management on an annual basis. The purpose of this review is to ensure the continuing sustainability, adequacy, and effectiveness of the EMS. The management review is documented and shall address the possible need for changes to policy, objectives, targets, and other EMS elements in light of environmental regulatory audits, EMS audits, changing circumstances, directives or mission, and the NHDOT commitment to continual improvement in environmental performance. Information on management reviews is also provided to the OSC by Bureau or District Management.